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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,636	12/28/2000	Yoshinobu Suehiro	P 275747 TYGUS001	6023

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02/10/2003

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EXAMINER

GEMMELL, ELIZABETH M

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 02/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/749,636

Applicant(s)

SUEHIRO ET AL.

Examiner

Beth Gemmell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-21 is/are allowed.
- 6) ☒ Claim(s) 1,4-8 and 22 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority based on applications filed in Japan on 28 December 1999, 3 February, 13 October, and 14 November 2000. It is noted, however, that applicant has not filed certified copies of the applications: 372440/99, 26226/2000, 312893/2000, 346647/2000 as required by 35 U.S.C. 119(b).

Information Disclosure Statement

The information disclosure statement filed 3 May 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

All US Patents have been supplied and considered. However, the foreign patents listed have not been considered because only the English abstract is not considered a proper disclosure copy.

Drawings

Figures 27 and 28 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to

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avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because:

- Line 21: "(Fig. 2)" should be removed

Correction is required. See MPEP § 608.01(b).

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claim 2 is objected to because of the following informalities:

- Line 2: "through-hole"; should be --penetrating hole--. This change has been suggested due to the fact that there is insufficient antecedent basis for this limitation in the claim; in the specification the hole is referred to as a penetrating hole. If the applicant chooses to use the term "through-hole" to refer to the hole in the reflection mirror, it must be changed throughout the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4-7, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Suehiro et al. (US Patent 5,623,181).

Re claims 1,5,6,7 and 22: Suehiro et al. discloses, in figure 3 and throughout the disclosure, a light-emitting diode comprising: a light-emitting element (111); a lead assembly for supplying electric power to the light-emitting element (112a,b); a reflection mirror provided in an opposing relation to the light-emitting surface of the light-emitting element (114); a light-transmissible material for sealing the light-emitting element, a part of the lead assembly and the reflection mirror (113); wherein the reflection mirror is a metal mirror (column 5, lines 9+); and the radiation surface is formed on the light-transmissible material at its surface at the rear of the light-emitting element.

Re claim 7: Suehiro et al. discloses, in figure 2 and throughout the disclosure, a case for containing the light-emitting element, a part of the lead assembly, and the reflection mirror (130).

Re claim 4: Suehiro et al. discloses, in figure 17 and throughout the disclosure, the light-transmissible material is essentially shaped like a square when viewed from the

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side of the radiation surface and the lead assembly is led to the outside from the base of the light-transmissible material close to a corner of the square.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suehiro et al. in view of Hansen et al. (US Patent 3,938,177).

Suehiro et al. fails to disclose the reflection mirror made of ceramic or resin.

Hansen et al. discloses a concave reflection surface made of resin (column 3, lines 10+).

One of ordinary skill in the art at the time the invention was made would have recognized that resin is an art recognized functional equivalent because the substitution of resin for the metal reflection surface would not alter the function of the reflection surface and it would still reflect the light emitted from the light-emitting diode.

Allowable Subject Matter

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Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 9-21 are allowable over the prior art.

The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record teaches a conventional light-emitting diode, however they fail to teach or fairly suggest a through/penetrating hole at the center of the reflection mirror. The prior art also fails to teach or fairly suggest a distance from the edge of the reflection mirror to the edge of the sealing mass made of the light-transmissible material being less than 1.0mm. The prior art further fails to teach or fairly suggest a reflection mirror having a linear reflectance of 65% or higher. The prior art also fails to teach or fairly suggest the lead assembly having a mount for mounting the light-emitting element, wherein the mount has a recess whose mouth opens towards the reflection mirror with the center of the mouth being in alignment with the central axis of the reflection mirror, and the recess contains the light-emitting element, and a fluorescent material which converts the light emitted by the light-emitting element to light of a different wavelength.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


- US Patent 6,396,082
- US Patent 3,875,456
- US Patent 4,853,593

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

emg
February 4, 2003


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3000

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